

REMARKS

The amendments and remarks presented herein are believed to be fully responsive to the Office Action.

Claims 1, 7-14 and 19 are pending in the present application. Claims 1, 12, 14 and 19 have been amended, claims 20-25 have been added, and claim 13 has been canceled. Claims 20-25 are supported by the original specification and no new matter has been added.

Examiner Interview Summary: Attorney (Changhoon Lee) for the Applicant would like to thank Examiner Nathan C. Uber for the helpfulness and courtesy shown in the telephonic interview with Examiner on February 2, 2010. Attorney respectfully amends the claims generally in accordance with the Examiner's suggestions.

CLAIM REJECTION UNDER 35 U.S.C. § 103(A)

The Office Action states that claims 1, 7-14 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Pub. No. 2004/0059708 issued to Dean et al. (hereinafter "Dean") in view of U.S. Patent No. 6,778,975 issued to Anick et al. (hereinafter "Anick").

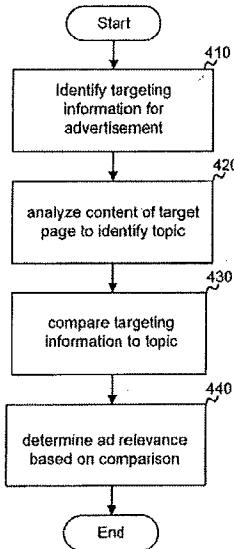
Claims 1, 12 and 19:

(1) Claims 1 and 19¹, as amended herein, recite (among other features) use of similar keywords and expansion keywords. The claimed invention comprises the steps of (1) receiving advertisement data for contextual ads from an advertiser, the advertisement data including at least one keyword and selection of a category for the contextual ads; (2) maintaining advertisement data of a plurality of advertisements for contextual ads, at least one keyword for each said advertisement and a category selected by each advertiser of said advertisement, in an advertisement database; (3) determining a content category for an on-line content by utilizing a predetermined classification algorithm; maintaining in a keyword database a keyword, a similar keyword related thereto and an expansion keyword related to the keyword; and (4) searching the advertisement database for advertisement data of a category having a match with the content category associated with the on-line content to be displayed to a user. To select the contextual ads, the claimed invention further recites: (1) searching the on-line content to be

¹ Claim 12 recites similar distinctive limitations.

displayed to the user for a keyword associated with the searched advertisement data, a similar keyword and an expansion keyword of said keyword by referring to the keyword database; (2) **computing an exposure point for the searched advertisement data based on the searched keywords, similar keywords and expansion keywords**; and (3) selecting advertisement data from the searched advertisement data based on the exposure point. At least these features, in combination with the other features in independent claims 1 and 19, are not taught or suggested by Dean in combination with Anick.

(2) In reference to Fig. 4 of Dean, reproduced for the Examiner's convenience, and para. [0043] - para. [0048], Dean is directed to a method and system of providing contextual advertising. Dean purports to disclose a method of identifying targeting information for an advertisement (410), analyzing the content of a target document to identify a list of one or more topics for the target document (420), comparing the targeting information to the list of topics to determine if a match exists (430), and determining that the advertisement is relevant to the target (440).



Dean

Storing ads information in a database (240)	[0027] Ad entry and management component 210 is the component by which the advertiser enters information required for an advertising campaign and manages the campaign. An ad campaign contains one or more advertisements that are related in some manner. For example, the Ford Motor Company may have an ad campaign for zero percent financing, which could contain a series of advertisements related to that topic. Among the other things that could be provided by an advertiser through ad entry and management component 210 are the following: one or more advertising creatives (simply referred to as "ads" or "advertisements"), one or more set of keywords or topics associated with those creatives (which may be used as targeting information for the ads), geographic targeting information, a value indication for the advertisement, start date, end date, etc. The data required for, or obtained by, ad entry and management component 210 resides in one of the databases 240.
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Maintaining keyword database	a	[0030] Databases 240 contain a variety of data used by advertising system 120. In addition to the information mentioned above in reference to ad entry and management system 210, databases 240 may contain statistical information about what ads have been shown, how often they have been shown, the number of times they have been selected, who has selected those ads, how often display of the ad has led to consummation of a transaction, etc. Although the databases 240 are shown in FIG. 2 as one unit, one of ordinary skill in the art will recognize that multiple databases may be employed for gathering and storing information used in advertising system 120.
Identifying targeting information for an ad (410)		[0043] The exemplary method is not limited by the order shown in the flow diagram. The process identifies targeting information for an advertisement. (Stage 410). The targeting information may be in the form of a list of keywords or phrases associated with the advertisement (e.g., "honda", "honda cars", "cars", etc.), as provided by advertiser 110 through ad campaign entry and management component 210. Alternatively, or in addition, the targeting information may be determined algorithmically, based on the content of the advertisement, the goods or services being advertised, the targeting of other related advertisements, etc. For example, if the content of the advertisement includes "Buy honda cars at the lowest prices of the year!", the terms "honda" or "honda cars" may be extracted from that content. The targeting information may also include other demographic information, such as geographic location, affluence, etc. Thus, the targeting information is simply some information from which a topic may be derived.
Analyzing the content of a target document to identify a list of one or more topics for the target document (420)		[0044] Next, the target document (i.e., the document corresponding to which a relevant advertisement is requested) is analyzed to identify a topic corresponding to that target document. (Stage 420). The target document may be stored on a database 240 or may be provided by ad consumer 130 via ad consumer interface component 250. There are numerous ways in which the target document may be analyzed to identify this topic, as described below in reference to FIG. 5 and related text. [0047] One way to identify a topic corresponding to the target document is by analyzing some or all text within the target document, which shall be illustrated in reference to FIG. 5. FIG. 5 shows a sample document, entitled "Travels in Italy", which contains a collection of travel-related information pertaining to Italy. The document text contains the term "restaurant" (appearing 20 times), "chianti" (appearing 10 times), and "the" (appearing 100 times). It could be determined that one or more of each term (word or phrase) that appears in the title of the target document corresponds to a topic of the target document. On this basis, the topics for this document may be "travels", "in", and/or "italy." [0048] Alternatively, it could be determined that one or more of each term that appears in the body of the target document corresponds to a topic of the target document. In the simplest case, each term within the target document would be identified as a topic. A slightly more complex approach would be to identify a term as a topic if it appears in the target document more than N times, such as N=2 (and indeed such a threshold-based approach could be used whenever terms within text are being analyzed). Even more complex analysis could be performed, such as by using a term vector for the target document, which assigns weights to each term. For example, terms that appear frequently in the target document may be assigned a relatively higher weight than those that appear less frequently. And so the term "the" would have a higher weight than "restaurant", which would have a higher weight than "chianti".
Matching (430/440)		[0045] The targeting information identified in stage 410 is compared to the one or more topics identified in stage 420 to determine if a match exists. (Stage 430). A "match" need not be an exact match. Instead, a match is an indication of a relatively high degree of similarity, and/or a predetermined (e.g., absolute) degree of similarity. If a match exists, the advertisement is determined to be relevant to the target document (stage 440) and may be provided to ad ordering component 270, for eventual provision to ad consumer 130 via ad consumer interface component 250.

(3) The present invention is directed to contextual advertising. More particularly, the claimed invention discloses the method and system of analyzing and matching an on-line content to the contextual ads. The claimed invention (1) assigns a target document a category for classifying directory-based document; and (2) expands keywords received from an advertiser by using similar keywords and expansion keywords as recited in claims 1, 12 and 19; and (3) selects advertisement data based on the exposure point.

(4) Match of Categories

The contextual advertising is a form of targeted advertising for advertisements appearing on web pages. A contextual advertising system generally scans the text of a website for keywords and returns advertisements to the webpage based on what the user is viewing. The claimed invention implements two-step processes to match the contextual ads. First, the claimed invention receives selection of a category from an advertiser and matches it with a content category of an online content determined by the claimed system. Independent claims 1, 12 and 19 are directed to a method and system which use a predetermined categories and relevant keywords as well as specific keywords received from an advertiser to determine proper advertising. For example, the claimed invention enables an advertiser who wants to target the 2010 winter Olympics to select a category of either “Sports” or “2010 Winter Olympics.” The claimed invention after crawling web pages analyzes and determines a content category for each crawled web page. The claimed invention further determines a match of the selected category of the ads and the determined content category. The claimed invention effectively reflects the advertiser’s intent based on their selection of the category for the contextual ads.

Unlike the claimed invention, Dean does not teach the method of receiving selection of the category from an advertiser; determining a content category for the on-line content; and determining a match of the selected category of the ads and the determined content category. Referring to para. [0043] of Dean, it only teaches receiving keywords, phrases or other demographic information from the advertiser. The system of Dean determines a topic for the contextual ads based on those keywords, phrases or other demographic information. The difference between the “topic” recited in Dean and the “category” recited in the claimed invention has been addressed in the previous office action. Those statements are hereby incorporated as if fully set forth herein. It is respectfully submitted that, irrespective of such

difference, Dean does not teach enabling the advertiser to select the target category.

(5) Use of Similar Keywords and Expansion Keywords

The claimed invention further refines keywords using combination of the similar keywords and expansion keywords. The claimed invention expands the target keywords received from advertisers using similar keywords and expansion keywords. Claims 1, 12 and 19 further specify that the similar keyword is a keyword having a similar meaning to the meaning of said keyword and the expansion keyword represents an upper concept or a lower concept of the keyword. Whereas, Dean does not disclose expansion of target keywords. Examiner indicated that database 240 of Dean teaches the claimed limitations. To the contrary, Dean uses a list of target keywords "as provided by advertiser 110 through ad campaign entry and management component 210. While Dean discloses a method of extracting target keywords from the content of the advertisement, it does not disclose expansion of the target keywords received from the advertiser. Determination of relevance based on frequency of targeted terms appeared in the target document is distinctively different from the claimed determination of relevance based on the exposure points computed in the recited way. This methodological difference alone serves to distinguish claims 1, 12 and 19 as amended from the Dean reference in combination with the Anick reference.

(6) In light of the foregoing, it is submitted that Dean fails to disclose limitations recited in claims 1, 12 and 19 of the present application and Anick still fails to remedy the deficiencies of Dean in teaching all the elements and limitations of claims 1, 12 and 19. Neither Dean nor Anick nor their combination disclose or teach all the elements and limitations of claims 1, 12 and 19. Therefore, claims 1, 12 and 19 are now in condition for allowance.

Claims 20-25

(7) Exposure Point

Claims 20-25 have been added. To select the contextual ads, the claimed invention further recites: (1) searching the on-line content to be displayed to the user for a keyword associated with the searched advertisement data, a similar keyword and an expansion keyword of said keyword by referring to the keyword database; (2) computing a first exposure point for the searched advertisement data by assigning a set of scores to a number of appearance of said searched keyword in the on-line content, positions of said searched keyword in the on-line

content and a font style of said searched keywords wherein the font style is at least one selected from a group consisting of a font size and a font color; (3) computing a second exposure point for the searched advertisement data by assigning the set of scores to a number of appearance of said similar keyword in the on-line content, positions of said similar keyword in the on-line content and a font style of said similar keywords wherein the font style is at least one selected from a group consisting of a font size and a font color; (4) computing a third exposure point for the searched advertisement data by assigning the set of scores to a number of appearance of said expansion keyword in the on-line content, positions of said expansion keyword in the on-line content and a font style of said expansion keywords wherein the font style is at least one selected from a group consisting of a font size and a font color; (5) computing a total exposure point based on weighted scores of the first, second and third exposure points; and (6) selecting advertisement data from the searched advertisement data based on the total exposure point. The claimed invention selects the contextual ads based on the exposure point once the contextual ads are filtered by the category. Referring to Fig. 8 of the present application as shown below, the exposure point is the weighted scores of the first, second and third exposure points and is calculated based on the number of appearance of the keyword in the on-line content, positions of the keyword in the on-line content and a font style of the keyword. The font style can be a font size and/or a font color. The claimed invention specifies the detailed method of computing the exposure point. The claimed invention computes a first exposure point based on the keyword, second exposure point based on the similar keyword, and third exposure point based on the expansion keyword. The total exposure point is calculated based on weighted scores of the first, second and third exposure points. Finally, the claimed invention selects the contextual ads based on the total exposure point.

FIG. 8

Keyword	Location	Evaluation point	Font color	Evaluation point	Font size	Evaluation point	Total
Refrigerator 1	Title	2	Black	1	16	1.6	4.6
Refrigerator 2	Text	1	Black	1	10	1	3
Refrigerator 3	Text	1	Black	1	10	1	3
Refrigerator 4	Sum	1.5	Blue	2	8	0.8	4.3
Exposure point							14.9

Whereas, Dean does not teach the claimed method of computing the exposure point. While Dean discloses a database 240 for storing one or more keywords and a topic of the ads, it does not teach a separate keyword database containing a keyword, the similar keyword and the expansion keyword. Dean teaches methods of identifying a topic of the target documents. For example, the topic of the target document can be determined based on a predetermined number of appearances of terms in the title or body of the target document.

Alternatively, more complex analysis could be performed, such as by using a term vector for the target document, which assigns weights to each term. For example, terms that appear frequently in the target document may be assigned a relatively higher weight than those that appear less frequently.

However, it does not teach the claimed two step method of filtering (searching for advertisement data of a category having a match with the maintained content category associated with the on-line content) and of computing the exposure point by using the stored keyword, similar keyword and expansion keyword. Further, Dean does not teach the claimed method of computing the exposure point based on the number of appearance of the keyword in the on-line content, positions of the keyword in the on-line content and a font style (font size and/or a font color) of the keyword. At least these features, in combination with the other features in independent claims 1 and 19, are not taught or suggested by Dean in combination with Anick.

(8) In light of the foregoing, it is submitted that Dean fails to disclose limitations recited in claims 20-25 of the present application and Anick still fails to remedy the deficiencies of Dean in teaching all the elements and limitations of claims 20-25. Therefore, claims 20-25 are now in condition for allowance.

(9) As to claims 7-11, the Examiner rejected claims 7-11 which depend from claim 1 as being unpatentable over Dean in view of Anick. Thus, the above remarks for claim 1 are equally applicable to the dependent claims 7-11. As such, claims 7-11 are clearly allowable over the cited prior art.

(10) As to claim 14, the Examiner rejected claim 14 which depends from claim 12 as being unpatentable over Dean in view of Anick. Thus, the above remarks for claim 12 are equally applicable to the dependent claim 14. As such, claim 14 is clearly allowable over the cited prior art.

Therefore, Applicant respectfully submits that the independent claims 1, 12 and 19, as well as all of the claims which depend therefrom, are free from Dean in combination with Anick and are allowable.

If any issue regarding the allowability of any of the pending claims in the present application could be readily resolved, or if other action could be taken to further advance this application such as an Examiner's amendment, or if the Examiner should have any questions regarding the present amendment, it is respectfully requested that the Examiner please telephone Applicant's undersigned attorney in this regard.

Respectfully submitted,

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